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(56) Documents cited

GB 2208109 A US 4768795 A

(58) Field of search

UK CL (Edition K) B7B BTC
INT CL⁵ B60N, B62B

(54) Child seat convertible into pushchair

(57) A child seat (1) capable of being used in a car or as part of a pushchair has a supporting frame (2) having two essentially triangular lateral sub-frames interconnected by cross rails (3). Each sub-frame is equipped with a pair of mounting pins (10) adapted to engage with appropriately shaped and positioned slots on the pushchair frame.

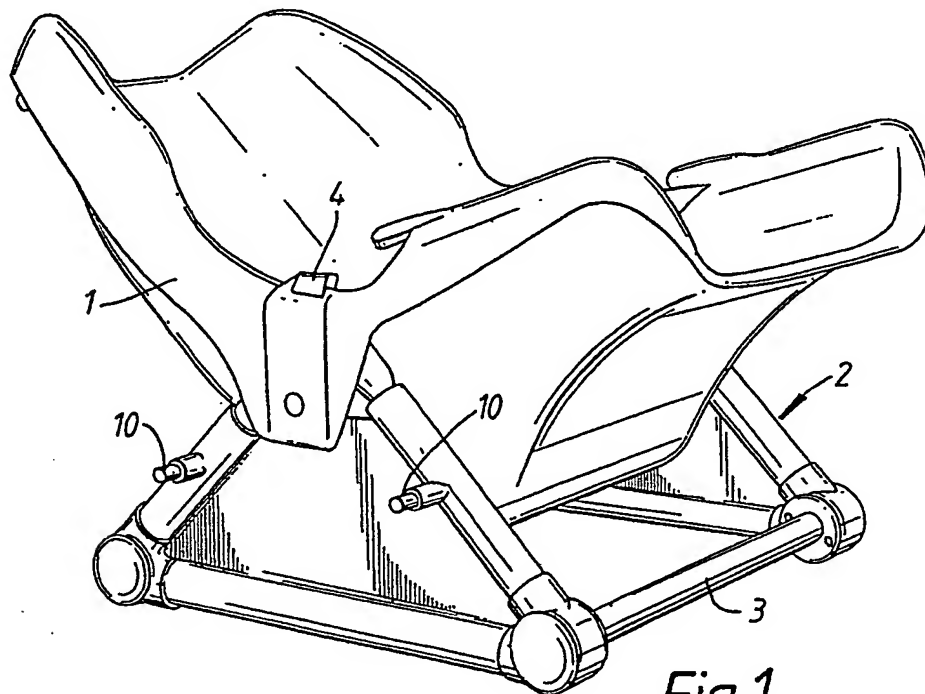


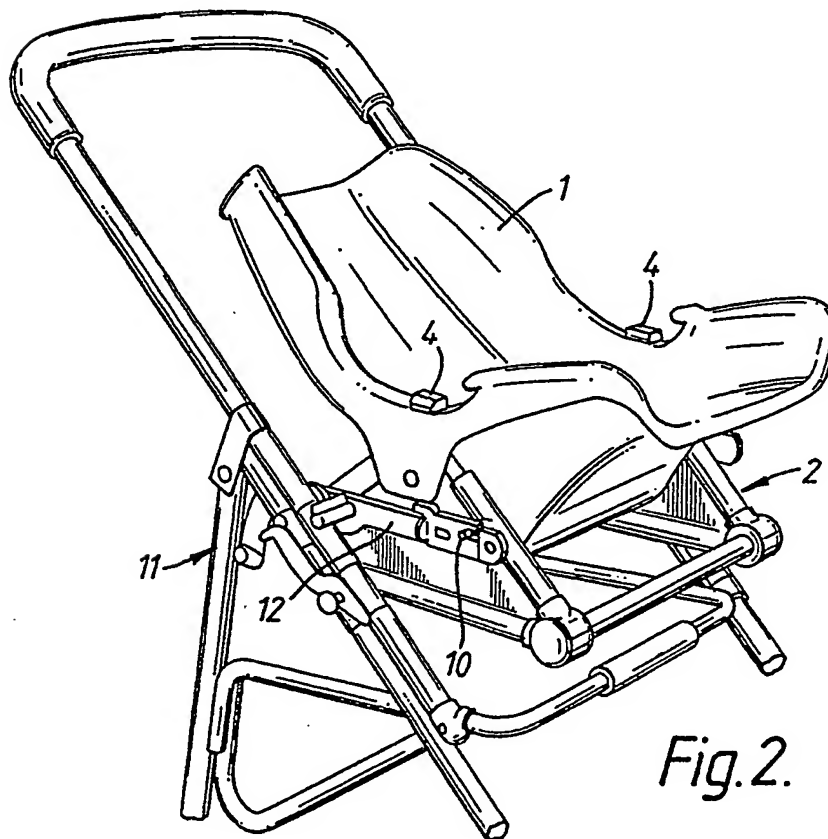
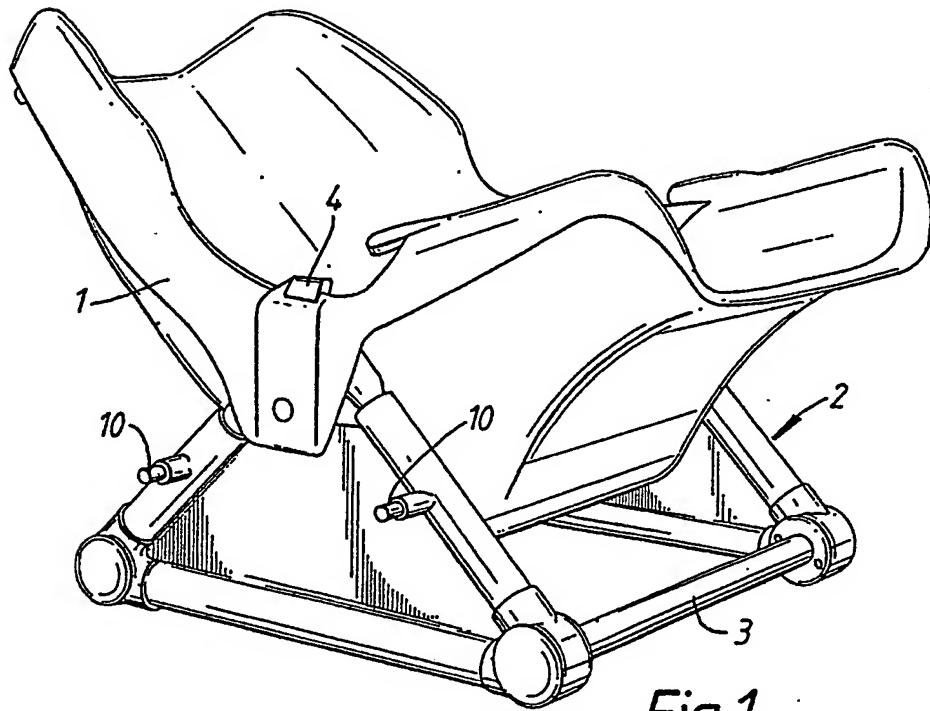
Fig.1.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.

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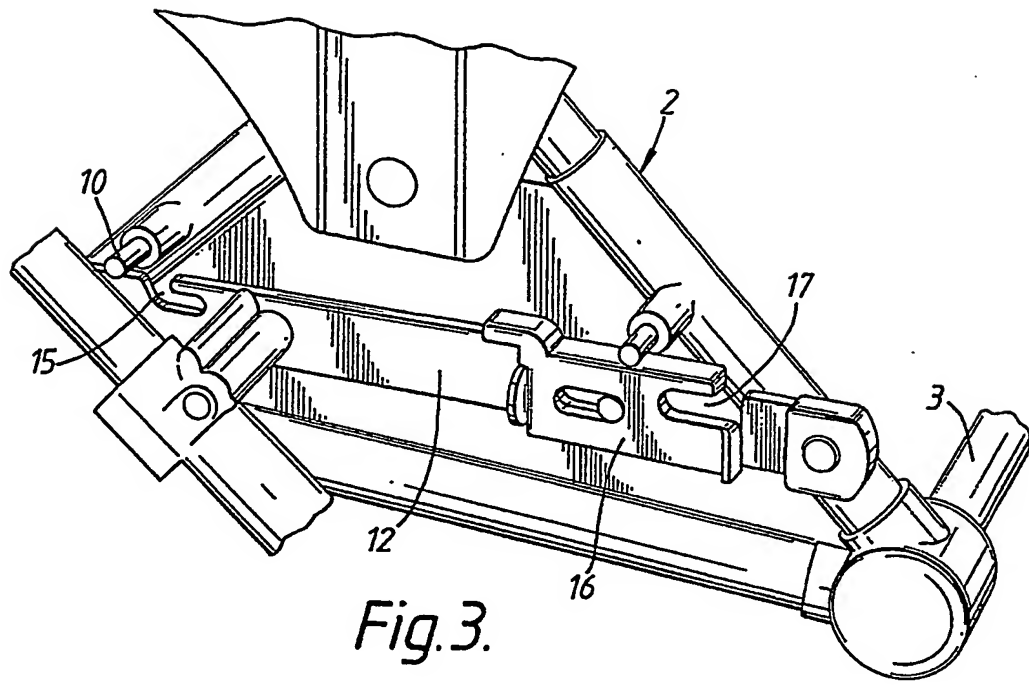


Fig. 3.

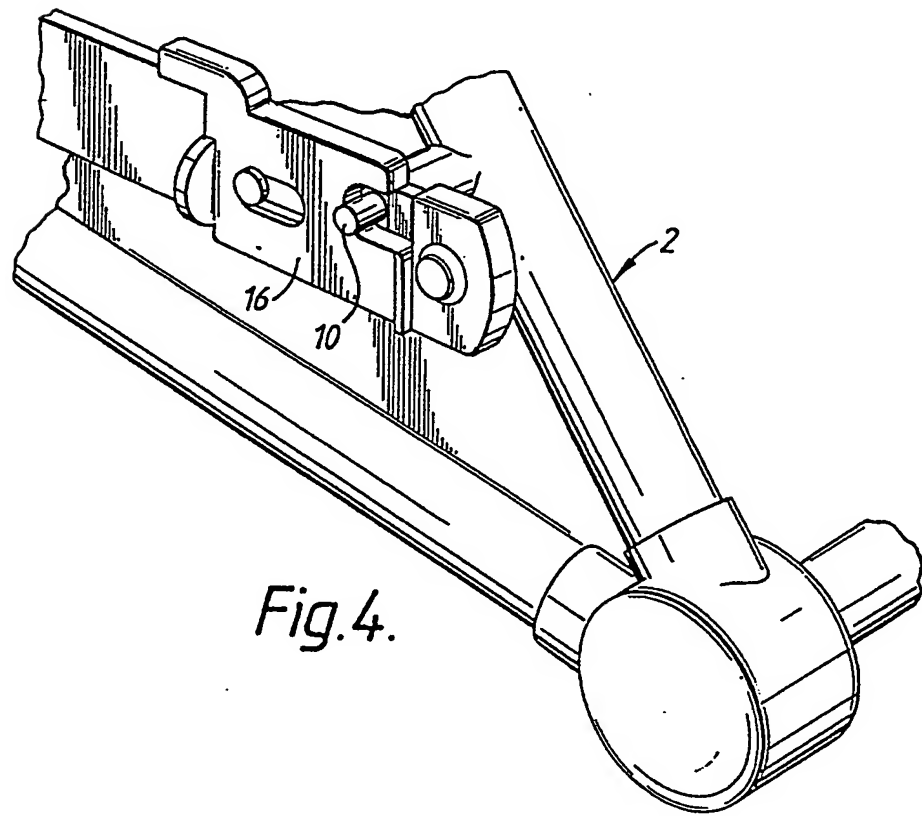


Fig. 4.

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Child Seats

This invention relates to seats for use by babies and small children.

It has been recognised it would be convenient for such seats to be capable of different uses, for example mounted with a wheeled frame to provide a pushchair, or supported on the seat cushion of a motor vehicle for safe carriage of the child. However, attempts to provide a seat suitable for various uses have resulted in rather complex mechanisms and systems making them inconvenient to use and/or expensive.

The present invention resides broadly in a child seat assembly comprising a seat, support means attached to the seat and adapted for resting on the seat pad of a motor vehicle seat for transporting in the vehicle a child in the seat, and on either side of the seat structure a pair of spaced mounting elements to enable the seat structure to be supported in a pushchair frame.

The invention provides an effective solution to the problem outlined above and does so with elegant simplicity. The mounting elements are conveniently projections, e.g. pins, which are displaced fore and aft of each other and engage in appropriately shaped and positioned slots provided in rails or arms of the pushchair frame which are generally horizontal when the pushchair frame is in an erected condition. The seat structure can be easily

dismounted from the pushchair frame and in accordance with the particular embodiment described hereinbelow can be selectively mounted in it so that a child being conveyed in the seat faces either to the front or to the rear.

A full understanding of the invention will be had from the following detailed description of an exemplary embodiment, reference being made to the accompanying drawings, in which:

Figure 1 is a perspective view of a seat structure according to the invention;

Figure 2 shows the seat structure mounted in a pushchair chassis;

Figure 3 is a detail view illustrating the attachment system for securing the seat structure on the pushchair frame; and

Figure 4 is a view showing the locking mechanism engaged.

In Figure 1 there is illustrated a seat structure comprising a seat 1 carried by a supporting frame 2 having two essentially triangular lateral sub-frames interconnected by cross rails 3 at their fore and aft apices. The seat is attached to the sub-frames by devices which enable the seat to be tilted between different positions upon depressing release buttons 4. As so far described the seat structure is of a known construction and sold as a car seat, the frame 2 being adapted to rest on the seat pad of a vehicle seat and the seat structure to be held in position by a standard seat belt associated with the vehicle seat.

In accordance with the invention the two sub-frames are each equipped with a pair of mounting pins 10 spaced apart substantially horizontally. More particularly, the pins 10 are anchored in moulded plates which form side panels on the frame 2 and are firmly clamped to the respective sub-frames by fixing members (not shown). The pins 10 constitute a very simple and convenient means for mounting the seat structure in a pushchair chassis 11 which may be of any

suitable, preferably collapsible form but which does include a pair of parallel support arms 12 arranged to extend substantially horizontally when the chassis is in its erect condition. Each arm has an essentially L-shaped slot 15 in its upper edge and near its rearward end, and near its front end is provided with a notch and a slider 16 which is guided for limited longitudinal displacement for opening and closing the notch, the slider including a slot 17 in its end for locking a pin 10 in the notch as explained below.

When the seat structure is to be mounted in the erected pushchair chassis, the sliders 16 are moved back to their open positions. The seat structure is manipulated to engage the two pins 10, either nearest the rear of the structure if the seat is to be located so that the child faces forwards as depicted in Figure 1, or nearest the front if the seat is to be positioned for the child to face rearwardly, are engaged in the L-shaped slots 15 of the respective arms 12. The other pins 10 are then allowed to drop into the notches at the front ends of the respective arms 12, and the sliders 16 are displaced forwardly to engage the pins 10 in the slots 17 and thereby lock the seat structure securely to the chassis. If the seat structure is to be dismounted, e.g. to reverse it on the chassis or for use in a car, this mounting procedure is merely reversed.

From the foregoing description it will be appreciated the mounting system is simple to operate making the seat structure convenient for its different uses. With two identical mounting elements located at the same level on either side of the support structure the seat can be readily reversed on the pushchair chassis.

Modifications are of course possible without departing from the scope of the invention. For example, the sliders 17 could be spring biased into the closed, locking positions if preferred. Although the structure in the described embodiment is reversible on the pushchair chassis, this is not an essential feature and the seat structure may be adapted to fit the pushchair chassis in only one position e.g. so the child will always face forwardly.

CLAIMS:-

1. A child seat assembly comprising a seat, support means attached to the seat and adapted for resting on the seat pad of a motor vehicle seat, and on either side of the seat structure a pair of spaced mounting elements to enable the seat structure to be supported in a pushchair frame.
2. A child seat assembly as claimed in claim 1, wherein the support means comprises sub-frames located at opposite sides of the seat, the mounting elements being carried on the sub-frames.
3. A child seat assembly according to claim 2, wherein the mounting elements are fixed to side panels fastened to the respective sub-frames.
4. A child seat assembly according to claim 3, wherein the side panels are moulded plates having the mounting elements anchored therein.
5. A child seat according to claim 2, 3 or 4, wherein the mounting elements on each side of the seat are spaced apart in a direction substantially parallel to the base of the support means.
6. A child seat according to any one of claims 1 to 5, wherein the mounting elements comprise laterally projecting members.
7. A child seat assembly substantially as herein described with reference to the accompanying drawings.
8. A pushchair chassis for use with a child seat assembly as defined in any one of the preceding claims,

comprising a pair of parallel, laterally spaced arms with means for engagement with the mounting elements of the seat assembly to lock the seat assembly securely in the chassis.

9. A pushchair chassis as claimed in claim 8, wherein each arm has slots for receiving the respective mounting elements at one side of the seat assembly, and a latch for retaining at least one mounting element in the corresponding slot.

10. A pushchair chassis as claimed in claim 9, wherein the latch is slidable on the arm between locking and releasing positions.

11. A pushchair chassis as claimed in claim 8, 9 or 10, wherein the seat assembly is reversible on the chassis for the seat to face forwardly or rearwardly.

12. A pushchair chassis substantially as claimed in claim 8 and substantially as herein described.

Patents Act 1977

E: Examiner's report to the Comptroller under
Section 17 (The Search Report)

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Application number

9123988.9

Relevant Technical fields

(i) UK CI (Edition K) B7B (BTC)

(ii) Int CL (Edition 5) B62B B60N

Search Examiner

PAT EVERETT

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

30 APRIL 1992

Documents considered relevant following a search in respect of claims

1-7

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2208109 A (BUSHELL) - Figs 2 and 3	1,2,5,6
X	US 4768795 (SHIH-LIN) - Fig 2, note channels 14)	1,5

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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